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ABSTRACT

A number of grammatical transformations are studied which often, but not always, involve the movement of constituents. Data from English, Japanese, Kannada, Korean, Mandarin Chinese and Thai are investigated in an attempt to discover a principle (of potentially universal scope) that governs certain constraints that must be imposed on these transformations. The principle discovered and defended is: A sentence, or part of a sentence, once subject to subdivision, may not be further subdivided by a foregrounding operation. The notion of foregrounding is discussed as well as a specification of the notion subdivision. Several potential counterexamples to the principle are discussed as well. (Author)

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MOVEMENT CONSTRAINTS ON TRANSFORMATIONS THAT DO NOT MOVE ELEMENTS

Robert Rodman

1. In this paper[1] I will look at a number of grammatical transformations which often, but not always, involve the movement of elements. Data from six unrelated languages[2] are brought to bear on the task of discovering a principle which governs certain constraints that must be imposed on these transformations in any adequate grammar of any of the respective languages.

The point of departure of this investigation will be Ross's two well-known constraints, the Complex NP Constraint (CNPC), and the Coordinate Structure Constraint (CSC). I will begin by briefly reviewing those results of Ross (1967) that are relevant here. In section 2 I will show that Ross's constraints are inadequate for Thai, and I will propose a semantically based principle that, in effect, replaces and strengthens the CNPC and CSC insofar as they affect the syntactic rules of Thai. The consequences of this change for English will be scrutinized in section 3. In sections 4, 5, and 6, the Dravidian language Kannada, Mandarin Chinese, and Korean are examined, and in section 7 Japanese is considered from the point of view of providing counterevidence to my hypothesis. Also in section 7 I will consider counterevidence from the Ozark dialect of English.

1.1 Because of sentences like (1), the rule of WH-Preposing[3] in English must be formulated with a variable in its structural description.

(1) a. Alex discovered he had no power to control his desire for sex and violence.

b. What did Alex discover he had no power to control his desire for?

c. The girl who Alex discovered he had no power to control his desire for went beserk in a clock factory.

But that being the case, what is to block the clearly ungrammatical sentences (2bd)?

(2) a. Filbert promised to listen to the claim that the Vikings explored the moon.

b. *What did Filbert promise to listen to the claim that the Vikings explored?

c. Otis managed to convince his father that the man that hired his girl friend ran a pizza house for profit.

d. *The girl friend who Otis managed to convince his father that the man that hired ran a pizza house for profit once turned down a movie contract.

Ross considered this problem and, observing similar behavior in other languages, he proposed that the following constraint be incorporated into the theory of grammar (making it a 'linguistic universal').

(3) COMPLEX NP CONSTRAINT (Ross 1967:70): No element contained in a sentence dominated by a noun phrase with a lexical head noun may be moved out of that noun phrase by a transformation.

In (2a), $_{NP}[_{NP}$[the claim]$_{NP}$ $_{S}$[that the Vikings explored the moon]$_{S}]_{NP}$ is a noun phrase with the lexical head noun the claim. The CNPC prevents the moon from being questioned by a preposing operation. Similarly, in (2c) the man that hired his girl friend is a relative construction, which is "a noun phrase with a lexical head noun" par excellence. The counterpart to the NP node that dominates the string his girl friend in (2c) cannot be moved out of the larger noun phrase the man that hired WH-someone to form a relative clause, as in (2d).

Still bearing in mind that WH-Preposing must be formulated to move elements over a variable, we must somehow account for the sentences in (4bd).

(4) a. Alex loved sex and violence.

b. *What does Alex love sex and?

c. Alex loved sex and Georgie loved violence.

d. *What did Alex love and Georgie loved violence?

Ross has an answer for this case too. He proposed that (5) also belong to the theory of grammar.

(5) COORDINATE STRUCTURE CONSTRAINT (Ross 1967:89): In a coordinate structure, no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.

It is clear how (5) acts to block the generation of the ungrammatical sentences of (4)

2. Since the CNPC and the CSC are supposed to be universal principles of language, we expect them to hold in Thai. We must try to find chopping rules in Thai, i.e. rules which permute elements over a variable, because those are the only kind of rules that are governed by the constraints (Ross 1967:236).

The process of Object Preposing in Thai moves elements to the head of the topmost S, as (6) illustrates:

(6) a. khru: dy̌:m nom kæ̂:w ní:
teacher drink milk glass of this

The teacher drank this glass of milk.

b. nom kæ̂:w ní: khru: dy̌:m

This glass of milk the teacher drank.

It is quite clear that (6b) is derived from (6a)--Thai is an SVO language. That an element can be preposed from indefinitely far away (hence chopped) is suggested by (7):

(7) a. kháw chŷa wâ: khru: dy̌:m nom
he believe complementizer teacher drink milk
kæ̂:w ní:
glass of this

He believes the teacher drank this glass of milk.

b. nom kæ̂:w ní: kháw chŷa wâ: khru: dy̌:m

This glass of milk he believes the teacher drank.

To test the CNPC we try to prepose the direct object out of the complex NP shown in (8). The ungrammaticalness of (9) indicates that the constraint holds.

(8) phǒm chɔ̂:b $_{NP}$[$_{NP}$[khru:] $_{S}$[thî: dy̌:m nom kæ̂:w ní:]]
I like teacher COMP drink milk glass of this

I like the teacher who drank this glass of milk.

(9) *nom kæ̂:w ní: phǒm chɔ̂:b khru: thî: dy̌:m

In a similar way the CSC can be shown to hold in Thai. It is impossible to prepose either direct object in (10), as the data in (11) show.

(10) khru: dy̌:m nom kâe:w ní: laé cha: thûaj ní:
teacher drink milk glass of this and tea cup of this

The teacher drank this glass of milk and this cup of tea.

(11) a. *nom kâe:w ní: khru: dy̌:m laé cha: thûaj ní:
b. *cha: thûaj ní: khru: dy̌:m nom kâe:w ní: (laé)

We might note in passing that movement within a conjunct can take place, a result consistent with the CSC.

(12) khru: dy̌:m nom kâe:w ní: laé nágrian dy̌:m
teacher drink milk glass of this and student drink

cha: thûaj ní:
tea cup of this

The teacher drank this glass of milk and the student drank this cup of tea.

(13) nom kâe:w ní: khru: dy̌:m laé nágrian dy̌:m
milk glass of this teacher drink and student drink

cha: thûaj ní:
tea cup of this

This glass of milk the teacher drank and the student drank this cup of tea.

Another chopping rule in Thai relates (14a) to (14b).

(14) a. khăw khă:j phâ:
he sell cloth

He sells cloth.

b. kô: phâ: nânlàe thî: khăw khă:j
particle cloth FOCUS COMP he sell

It's cloth that he sells.

The NP phâ: is chopped into focus position out of a constituent structure that, except for a deep structure element of emphasis or focus, underlies (14a). Example (15) suggests that the focused element can originate indefinitely far down the tree.

(15) kô: năngsy̌: nânlàe thî: khăw phí:sù:d wâ: thə: sý:
particle book FOCUS COMP he prove COMP she buy

It's a book that he proved that she bought.

The data in (16) show that the CNPC and the CSC are obeyed.

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(16) a. *kɔ̂: phâ: nân làɛ̀ thî: phûːchaːj thî: khǎːj sūːng
part. cloth FOCUS COMP man COMP sell tall

*It's cloth that the man who sells is tall.

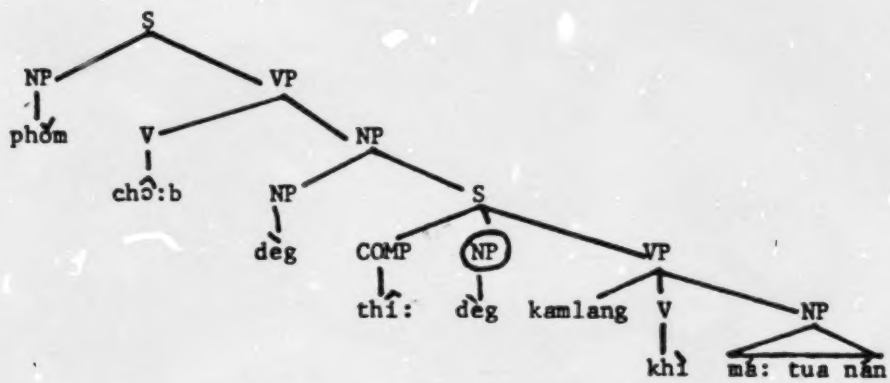
b. *kɔ̂: phâ: nân làɛ̀ thî: khǎw khǎːj lɛ́ phǒnlámáaj
part. cloth FOCUS COMP he sell and fruit

*It's cloth that he sells and fruit.

As in so many of the world's languages, relative clause formation in Thai is accomplished by deletion of the relativized nominal in the embedded clause under identity with a nominal in the matrix clause. No elements are pronominalized, and, significantly, no elements are reordered. In (17), the circled NP is deleted from the underlying structure to give the surface utterance. The element thí: is a complementizer.

(17) phǒm chɔ̂ːb dèg thî: kamlang khìː máː tua nán
I like boy COMP PROG ride horse classifier that

I like the boy who is riding that horse.



Relative Clause Formation must be formulated with a variable in its structural description because elements indefinitely far down a tree can be relativized, as suggested by (18).

(18) phûːchaːj thî: phǒm khíd wâː khǎw chɯ̂a wâː khruː
man COMP I think COMP he believe COMP teacher

hěn paj thî: tàlàːd lɛ́ːw
see go to market already

The man whom I think he believes the teacher saw has already gone to the market.

However, Thai does not permit elements which themselves belong to

relative clauses to be relativized, as we see in (19).

(19) a. phûːchaːj thîː maeːw hěn chɔ̂ːb mǎː tua nán
man COMP cat see like dog classifier that

The man who the cat sees likes that dog.

b. *maeːw thîː phûːchaːj thîː hěn chɔ̂ːb mǎː tua
cat COMP man COMP see like dog classifier

nán dam
that black

*The cat that the man who saw likes that dog is black.

Nor can any element in a coordinate structure be relativized, as seen in (20) and (21).

(20) a. maeːw lǽ mǎː dɯ̀ːm nom
cat and dog drink milk

The cat and the dog drank milk.

b. *maeːw thîː lǽ mǎː dɯ̀ːm nom pen khɔ̌ːng chǎn
cat COMP and dog drink milk be poss. I

*The cat that and the dog drank milk is mine.

(21) a. maeːw dɯ̀ːm nom lǽ phûːchaːj kin khâːw
cat drink milk and man eat rice

The cat drank milk and the man ate rice.

b. *khâːw thîː maeːw dɯ̀ːm nom lǽ phûːchːj kin pen
rice COMP cat drink milk and man eat be

khɔ̌ːng chǎn
poss. I

The rice that the cat drank milk and the man ate is mine.

In addition to the CNPC and the CSC, an adequate grammar of Thai will need a further constraint to the effect that elements in relative clauses and coordinate structures may not be relativized. But we would then find the grammar cluttered with constraints of relatively low functional use. It is unlikely that such a grammar would reflect the intrinsic knowledge the Thai speaker has about his language. It would be desirable to eliminate one or more of these constraints in favor of a broader, more general principle.

A summary of the investigation to this point will prove useful. We have noted that constraints in the grammar of Thai are needed to

prevent the rules of Object Preposing, Focus, and Relative Clause Formation from affecting elements that belong to relative clauses or coordinate structures. We also noted that the latter instance does not fall under the jurisdiction of the CNPC and the CSC, though the former two do.

These three rules have something in common: they each foreground[4] an element (or elements) of a sentence at the expense of other elements, which then comprise the background. That this is true is self-evident for Object Preposing and Focus. In the case of relativization, as Paul Schachter (1972) has convincingly argued, the head nominal is foregrounded, whereas the clause modifying the head noun comprises the background. The fact that the relative construction is itself a nominal supports the contention that the head noun is ascribed the relatively high communicative importance expected of foregrounded elements. Thus a first approximation to the unifying principle that is being sought is the statement (22).

(22) No element may be foregrounded that belongs to a relative clause or a coordinate structure.

Support for (22) is garnered by a consideration of the process of constituent question formation in Thai. No reordering is involved. A special word replaces the constituent to be questioned, and that is all.[5] The sentences (23ab) illustrate.

(23) a. khǎw kin ?àraj
he eat what
What did he eat?

b. khun chɔ̂a wâ: phǒm hěn khraj
you believe COMP I see who
Whom do you believe I saw?

Though informant response wavers a little, it is of low acceptability, if not entirely ungrammatical, to question elements in relative clauses or coordinate structures, as shown in (24) and (25).

(24) a. phǒm chɔ̂:b hŭahɔ̌:m lɛ́ tae:ngmo:
I like onions and watermelon

b. *khun chɔ̂:b ?àraj lɛ́ tae:ngmo:
*What do you like and watermelon?

c. *khun chɔ̂:b hŭahɔ̌:m lɛ́ ?àraj
*What do you like onions and?

(25) a. phǒm chɔ̂:b dèg thî: phû:cha:j hěn
I like boy COMP man see
I like the boy whom the man saw.

b. *khun chɔ̂:b dèg thî: khraj hěn
*Whom do you like the boy who(m) saw?

Since constituent questions put into the foreground of the sentence one or more constituent slots (and impose the meaning "?" on that slot), the restriction needed to prevent (24) and (25) from being generated is just the statement in (22). Neither the CNPC nor the CSC have any effect over the formation of constituent questions in Thai since that process does not involve the reordering of elements.

We press the search for a more encompassing principle by noting that it is ungrammatical to question elements in a sentence that has undergone Object Preposing or Focus, as we see from (26) and (27).

(26) *nom kâe:w ní: khăw chya wâ: khraj dỳ:m (cf.(7b))

(27) *kɔ̂: phâ: nânlàe thî: khraj khă:j (cf.(14b))

And it is ungrammatical to relativize an element that belongs to a sentence that has undergone Object Preposing or Focus.[6]

(28) *khru thî: nom kâe:w ní: khăw chya wâ:
teacher COMP milk glass of this he believe COMP
dỳ:m sŭ:ng (cf.(7b))
drink tall
*The teacher that this glass of milk he believes drank is tall.

(29) a. kɔ̂: khru: nânlàe thî: khă:j phâ:
part. teacher FOCUS COMP sell cloth
It's the teacher who sells cloth.

b. *phâ: thî: (kɔ̂:) khru: nânlàe thî: khă:j phae:ng
cloth COMP part. teacher FOCUS COMP sell expensive
*The cloth that it's the teacher who sells is expensive.

Neither (26), (27), (28), nor (29b) are prevented by the CNPC.

Some of these ungrammatical sentences might be accounted for by judicious ordering of transformations, but such a solution rings false, especially at this time when a number of linguists are questioning the correctness of extrinsically ordering grammatical rules. Besides, there would still be a significant residue of ungrammatical sentences that rule ordering would be helpless to block.

We have already noted that the rules Relative Clause Formation, Constituent Question Formation, Focus, and Object Preposing all have the semantic effect of dividing a sentence (or some subpart thereof) into a foreground and a background. We note furthermore that a coordinate structure is a semantic division into equal parts. The constraint that appears to be in effect is that once material has been divided into foreground and background, it is no longer subject to further division in this respect.[7] Similarly, once a division is made into equal parts, no element of any conjunct, nor any conjunct itself may be foregrounded at the expense of an equal partner. (But as the data in (12) and (13) show, elements within a single conjunct may be foregrounded at the expense of other elements in the same conjunct.) To sum up the results so far, we give (30), which replaces (22), the CNPC and the CSC.

(30) A sentence, or part of a sentence, once subject to subdivision, may not be further subdivided by a foregrounding operation.

Since the four rules mentioned above are foregrounding operations, no one of them may apply to the output of any of the others, nor to a coordinate structure.

It appears that insofar as Thai is concerned, (30) is a necessary addition to the grammar, though I am not sure how to implement such a constraint formally. In Thai, as long as (30) is in effect, the CNPC and the CSC are not needed. It will be interesting to test the validity of (30) as a universal principle of language, and with that goal in mind we extend the investigation to languages other than Thai.

3. In this section I will examine a number of syntactic processes in English in light of the constraint (30). It is the nature of English to indicate syntactically the semantic operation of foregrounding by preposing, or promoting, the element(s) that is foregrounded. Thus constraints on foregrounding take the guise of constraints on reordering transformations. The study of Thai has helped us to the deeper insight embodied in the statement of (30). A study of English, however, will show that (30) is not fully adequate as stated. The necessary repairs and explications will be made in this section.

3.1 I believe the following analysis of restrictive relative clause formation in English is essentially the correct one (cf. Emonds 1970: 129, and Rodman 1972a:158-9, note 32). The clausal part of the relative clause is headed by the complementizer that. Relativization takes place in stages. The first stage pronominalizes the nominal in the embedded S under identity. The second stage may either delete that pronominal form, or prepose it to replace the that complementizer. If deletion takes place then a relative clause in which the "relative

pronoun" is that is formed. Otherwise a relative clause with a WH-relative pronoun is formed. Finally, an optional rule of that deletion, needed independently by the grammar, gives relative-pronounless forms when a non-subject nominal has been relativized.

If this analysis is correct, and there is evidence to verify it in the references cited above, then relative clauses headed by that are formed without any elements being reordered. But then such relative clauses should not obey the CNPC, and sentences like (31) ought to be possible.

(31) *The man that I saw the woman and was Peter.

With (30) available as a constraint on the grammar of English, this problem vanishes, as (31) is predictably ungrammatical.

Similarly, "such that" relative clauses, which behave semantically just like ordinary relative clauses, are formed without any reordering of elements.

(32) A man such that he dates a fish walks in the park.

(Cf., a man who dates a fish walks in the park.)

Nonetheless this construction reacts like an ordinary relative construction with respect to the non-occurrence of sentences in which elements are relativized out of a relative structure, a focus structure, a coordinate structure, etc.

(33) a. *John dates a woman such that a man such that he loves her walks in the park.

b. *The fish such that it's a woman who dates it loves Mary.

c. *John dates a woman such that a man and she seek a unicorn.

The ungrammatical sentences in (31) and (33) are blocked by (30).

3.2 In this subsection a second front is opened in my war against Ross's constraints. Up to now the form of the argument has been: "Look, here are all these non-reordering rules that obey (as it were) the CNPC and the CSC, but which are not governed by the two constraints. Let's devise some kind of constraint to handle these cases, and while we're at it, let's try to make the constraint encompass the CNPC and the CSC." Principle (30) is an attempt to accomplish such a feat.

A second kind of inadequacy of Ross's constraints is that there are structures which do not allow elements that belong to them to be

chopped out, or, in terms of the work done here so far, to be foregrounded (with or without reordering), even though such structures are neither complex NP's nor coordinate structures. Without (30), the grammar, even with the presence of the CNPC and the CSC, would have to be bolstered to account for these cases, just as it would have had to be bolstered to account for the constraints on the non-reordering rules. Happily, (30), with no further modification, handles these cases, providing intensive empirical support for this principle.

In the next three subsections (3.2.1, 3.3, and 3.4), then, I will pursue this argument.

3.2.1 While the CNPC prevents elements from being chopped out of a relative clause that is intact, if the clausal part of the relative clause is extraposed by the rule Extraposition from NP, thus rendering the "complex" NP no longer complex, it nonetheless remains true that elements cannot be chopped out of the clause. The data in (34) illustrate:

(34) a. A man who belongs to SDS was arrested on campus.

b. A man was arrested on campus who belongs to SDS.

c. *What organization was a man arrested on campus who belongs to?

Ross got around this difficulty in his dissertation by arguing that Extraposition from NP is last cyclic, and must follow all the chopping rules (Ross 1967: 159-161). In Rodman (1972a:153, note 7) I showed that Ross's solution is untenable, and in that same work offered an alternative (section 4.3). Unfortunately, my solution, too, has serious drawbacks and a good explanation is still lacking.

If (30) is in the grammar of English (or if it belongs to the theory of grammar), the problem vanishes. The clause <u>who belongs to WH-organization</u> has been backgrounded by the rule of Relative Clause Formation, and it remains backgrounded even though it is extraposed, and so no element of that clause is subject to foregrounding. In particular, <u>organization</u> cannot be brought into the foreground by being questioned.

3.3 In English, elements of subordinate clauses may not be questioned or relativized.

(35)

a. The cat scratched a frog { after / while / because / before } that girl caressed a chimp.

b. *The chimp which the cat scratched a frog {after / while / because / before} that girl caressed poses nude for calendars.

c. *Which girl did the cat scratch a frog {after / while / because / before} caressed a chimp.

If subordinate clauses of this type are actually underlying relative clauses, as some linguists have suggested, then the impossibility of (35bc) is accounted for by the CNPC. Indeed, one argument in favor of such an analysis cites sentences like (35bc) together with the CNPC, noting that no further statement is needed in the grammar to account for the ungrammatical sentences. I reject that particular analysis in favor of one that derives subordinate clauses more directly, and I believe many linguists would agree with me.[8] In doing so, I must be able to account for (35bc), and the like, but this is easy enough. I simply note that a subordinate clause comprises background material. Principle (30) prevents elements of background material from being foregrounded by rules like Relative Clause Formation, and so on.

The cases involving subordination are interesting for another reason. It appears that although the subordinate clause is backgrounded, there is no corresponding foregrounding, that is, the main clause does not participate by becoming foregrounded material. Thus elements in the main clause remain subject to foregrounding operations. Elements in the subordinate clause may be "doubly backgrounded", but this apparently is allowed. The sentences in (36) are all grammatical.

(36)

a. Which cat scratched a frog {after / while / because / before} that girl caressed a chimp.

b. The frog that the cat scratched {after / while / because / before} that girl caressed a chimp is not Governor Reagan in disguise.

3.5 In part, the CNPC was designed to prevent elements from being chopped out of sentences which are in apposition to an abstract noun like fact, claim, etc. For example, the sentences (37bc) are ungrammatical.

(37) a. The minister reported the fact that Alex had been cured of his violent tendencies.

b. *Who did the minister report the fact that had been cured of his violent tendencies.

c. *The violent tendencies that the minister reported the fact that Alex had been cured of were lurking just beneath the surface of his psyche.

Constructions of this form are made up of material divided into foreground and background. The abstract head noun serves as the foreground and indicates the kind of sentence which is about to follow, be it a fact, an assertion, a claim, a proposal, a denial, a suggestion, etc. The sentence in apposition is reduced in status to background material, and (30) accounts for the constraints that transformations suffer when they encounter such constructions.

A similar kind of constraint involves factives. Elements in a factive clause cannot be relativized, questioned, topicalized, clefted, etc. Compare the factives in (38) with the non-factives in (39).

(38) a. It is odd that Guinevere likes that baby.

b. *The baby that it is odd that Guinevere likes kicks and screams whenever he sees her.

c. *It's John's baby that it is odd that Guinevere likes.

(39) a. It is possible that Guinevere likes that baby.

b. The baby that it is possible that Guinevere likes kicks and screams whenever he sees her.

c. It's John's baby that it is possible that Guinevere likes.

Linguists, in noting the grammaticalness of (40), and and ungrammaticalness of (41), posited an underlying, abstract head noun the fact for factives, and then utilized the CNPC to account for ungrammatical sentences like those in (38), just as it accounts for the ungrammatical sentences in (37).

(40) The fact that Guinevere likes that baby is odd.

(41) *The fact that Guinevere likes that baby is possible.

Late rules would replace the fact by it, as in (38a), or delete it altogether as in that Guinevere likes that baby is odd.

Factive sentences like (38a), or like Bill regrets that he's Jewish, have long been cited as illustrations of presupposition. In (38a) the proposition that Guinevere likes that baby is presupposed by the speaker, just as the proposition that he's Jewish is presupposed by the speaker of Bill regrets that he's Jewish. I wish to propose that presupposed material is automatically backgrounded. Then (30) would account for (38bc), and the dubious underlying the fact will lose one of its strongest pros.

Intuitively, it is certainly plausible, if not desirable, to state that presupposed material is backgrounded. After all, language is a system of communication, and in any such system the novel and unexpected take precedence over the old and the already known. One way for language to manifest this precedence is for the speaker to relegate what is already known to him, e.g. that which he presupposes, to a semantic status of reduced prominence, i.e. to the background.

We may also note that there is presupposed material in any sentence in which some constituent is being questioned. For example in who ate beans it is presupposed that someone ate beans, just like in who did Mary kick it is presupposed that Mary kicked someone. This fact, then, is responsible for the presence of a foreground-background division in constituent-questions, which in turn accounts for the totality of ensuing restrictions, which I documented in section 2 for Thai.

3.5 I noted in section 2 that in a coordinate structure division of semantic material into equal parts has taken place, and it is impossible to foreground any element of one conjunct, or the conjunct itself, at the expense of backgrounding elements in an equal partner. In English, this restriction is often described in terms of the CSC. Ross (1967: 96ff) noted a peculiar exception to the CSC. An element can be chopped out of a coordinate structure if it occurs in each conjunct of the coordinate structure, and if it is operated on by an "across-the-board" rule. Relative Clause Formation is such a rule, and its ability to operate "across-the-board" is exemplified in (42) (Ross's (4.122), p. 98).[9]

(42) Students who fail the final exam or who do not do the reading will be executed.

It is significant that the principle (30) does not militate against across-the-board relativization. Since the same element is foregrounded out of each conjunct, the status of no conjunct is altered relative to an equal partner; the conjuncts all become background material together, and retain their equality. If a single conjunct fails to join its partners in background status, (30) will block the sentence, as it should.

(43) *Students who fail the final exam or who do not do the reading or professors avoid giving coherent lectures will be executed.

Thus (30) explains a puzzling counter-example to the CSC, which provides further motivation for adopting it in the place of the CNPC and the CSC.

3.6 Echo questions appear to be a counterexample to the hypothesis I am putting forth in this paper, for in English (as well as Thai)[10], you can question, hence foreground, an element that belongs to a relative clause, a cleft sentence, a coordinate structure, etc. by means of this syntactic device.

(44) a. John likes eggs and what?

b. The man who recalls which party is coming?

c. Beans who likes?

d. khǎw chɔ̂:b hǔahɔ̌:m lǽ ʔàraj nǽ
he like onion and what particle
He likes onions and what?

Echo questions are a unique kind of sentence. They involve automatically repeating material just heard, making certain changes in pronouns to keep everything referentially constant, and substituting a question word(s) in the surface structure position of some element unheard, misunderstood, or about which one wishes to express surprise, shock or indignation. Not only do echo-questions run roughshod over principles like the CNPC, or like my (30), but they don't even have respect for the integrity of the word. The following sentences, I believe, are grammatical, though they appear strange in written form.

(45) a. Speaker A: Did you know that one million to the twentieth power is called a vigintillion?

Speaker B: (It's called) a what-illion?

b. Speaker A: A poltergeist is always devising tricks to play on my husband and me.

Speaker B: A polter-who?

c. Speaker A: I must hire a lawyer and attempt to gain a replevin.

Speaker B: You want to get a re-what?

Hetzron (1972) puts echo questions in a class of "pregenerated structures", i.e. "constructions that, in order to be uttered, presuppose that a sentence with a more or less specific structure has been heard in the previous discourse" (p.99). He goes on to say that pregenerated structures do not necessarily obey the usual constraints in the language, and that "the copier can take more liberties with the string borrowed than its original emitter" (p. 101). He gives evidence in favor of this view.

Whatever the cause of this idiosyncratic behaviour[11] of echo questions, they appear to belong to a very narrow, well-defined class of exceptions to (30) and therfore do not provide damaging counter-evidence.

3.7 A far more serious counterexample to (30) is found among the copying rules of English (Ross 1967:235ff). Copying rules reorder elements over variables, just like chopping rules, except that copying rules leave a pronominal trace behind of the element that is reordered.[12] Ross observed (1967:236) that copying rules are not subject to the CNPC or the CSC.

The rule of Left Dislocation is a copying rule. It relates the pairs of sentences in (46).

(46) a. Alex got sent up for 14 years.

Alex, he got sent up for 14 years.

b. I told you not to believe that Sue would keep her promise to Percy.

Percy, I told you not to believe that Sue would keep her promise to him.

This rule can remove elements from coordinate structures, relative clauses, cleft sentences, factives and so on.

(47) a. Peter, Ivan and he never got along very well.

b. Ralph Mintz, I know a girl who actually likes him.

c. Paris, it's there that Lucy lost her virginity.

c. Christians, it's odd that they condone violent acts.

Left Dislocation is clearly a foregrounding operation, and as such it should be subject to (30), yet the perfectly grammatical sentences of (47) belie the validity of (30). Apparently we need the following kind of statement:

(48) If a rule produces a foreground-background dichotomy, and if, in the syntactic structure of the derivation, a (pronominal) representation of the foregrounded constituent remains behind in the background, then (30) fails to take effect.[13]

Actually, it's possible that the determination of what comprises foreground material and background material is the issue at stake here, not the correctness of (30). For instance, perhaps a foregrounding operation that leaves a pronominal trace has the effect of cancelling previous foreground-background distinctions in favor of its own. This solution, while observationally adequate, is totally ad hoc to the situation at hand, and is without independent basis. If Left Dislocation were the only rule to violate (30) then a different kind of solution might be sought. However rules in other dialects of English,[14] as well as in other languages unrelated to English, behave the same way. Thus I need to fall back on a statement like (48), or something equally miserable, and content myself with having observed how syntax encroaches on semantics in that the purely syntactic event of leaving a pronominal trace vitiates a semantic constraint.

Ross claims the following sentences are grammatical in a dialect of English (see note 14):

(49) a. All the students who the papers which <u>they</u> submitted were lousy I'm not going to allow to register next term.

b. Didn't that guy who the Game Warden and <u>him</u> had seen a flying saucer crack up.

c. King Kong is a movie which you'll laugh yourself sick if you see <u>it</u>.

In these sentences the rule of Relative Clause Formation leaves behind a pronominal representation of the foregrounded (i.e. relativized) constituent, so the constraint given in (30) is, as predicted, violated.

4.1 The Dravidian language Kannada[15] has two modes of relative clause formation. One of these modes (the native one), operates by deleting an identical nominal in the embedded clause,[16] much as in Thai, while changing the main verb in the embedded clause into a participle.

That relativization goes indefinitely far down into a tree can be seen from (50).[17]

(50) a. prakāśakanu patrikeya jāhirātina
publisher (in the) journal (of) advertisement

puṭagaḷa ādāravannu gottupaḍisuttāne
pages size fixes

The publisher fixes the size of the pages of advertisement in the journal.

b. prakāśakanu jāhirātina puṭagaḷa ākāravannu
publisher (of) advertisement pages size

gottupaḍisida patrikeyu ...

The journal in which the publisher fixes the size of the pages of advertisement...

Since relative clause formation in Kannada must be formulated with a variable in its structural description, it is necessary to introduce a constraint that will prevent elements that belong to relative clauses from being relativized, for in Kannada you cannot embed (51a) in (51b) to get (51c).

(51) a. sītheyu citravannu tegeda kalāvidanannu prītisuttāḷe
Sita picture drawn artist loves

Sita loves the artist who drew the picture.

b. gōpālanu citravannu koṇḍanu
Gopal picture bought

Gopal bought the picture.

c. *gōpālanu sītheyu tegeda kalāvidanannu prītisuva
Gopal Sita drawn artist picture

koṇḍanu
bought

*Gopal bought the picture which Sita loves the artist who drew.

Nadkarni says that (51c) is "ungrammatical and even worse than its English rendering" (1970: ch. 3, p. 49).

Similarly, this mode of relative clause formation must be constrained from relativizing elements that belong to coordinate structures.

(52) a. khurciya mattu sōfāda naḍuve avaru mējannu
of the chair and of the sofa between they table

iṭṭiddāre
have please

They have placed the table between the chair and the sofa.

b. *khurciya mattu naḍuve avaru mējannu iṭṭiruva
of the chair and between they table having placed

sōfāvu muridide
sofa is broken

*The sofa which they have placed a table between a chair and is broken.

The rule of relative clause formation involved here is not governed by either the CNPC or the CSC. A statement like (30) appears to be needed in the grammar of Kannada. If (30) is a universal principle of language it will be in effect in Kannada and no special conditions on the rule of relative clause formation, nor any language specific constraint, will be needed to block sentences like (51c) and (52b).

Kannada has another mode of relative clause formation in which the embedded nominal to be relativized in neither deleted nor pronominalized, but left entirely intact with the appropriate form of a relative pronoun inserted on its left. From statement (48) we would predict the suspension of (30) and the permissability of relativizing elements in relative clauses and coordinate structures--the same type of exceptions that were illustrated in (49) for a dialect of English. Examples (53) and (54) bear this out.

(53) gōpālanu sītheyu yāva citravannu tegeda kalāvidanannu
Gopa Sita rel. pro. picture drawn artist

prītisuttāḷō ā citravannu koṇḍanu
loves definitivizer picture bought

*Gopa bought the picture which Sita loves the artist who drew [that picture]. (cf. 51c)

(54) khurciya mattu yāva sōfāda naḍuve avaru
of the chair and rel. pro. of the sofa between they

mējannu iṭṭiddārō ā sōfā muridide
table having placed definitivizer sofa is broken

*The sofa which they have placed a table between a chair and [that sofa] is broken.

5.1 In Mandarin Chinese we find a situation that mirrors what we observed in Thai. That is, there are chopping rules in Mandarin that obey Ross's two constraints, but there are non-reordering rules that also "obey" them, necessitating the addition of some further constraints to the grammar. Since all the constraints of this type that are needed for Mandarin fall within the scope of (30), that principle receives further support for its candidacy as a linguistic universal.

(55) a. wǒ xǐhuān kàn shū
I like read book
I like to read books.

b. shū, wǒ xǐhuān kàn
Books, I like to read.

c. shū, wǒ xiǎng tā xǐhuān kàn
book I think he like read
Books, I think he likes to read.

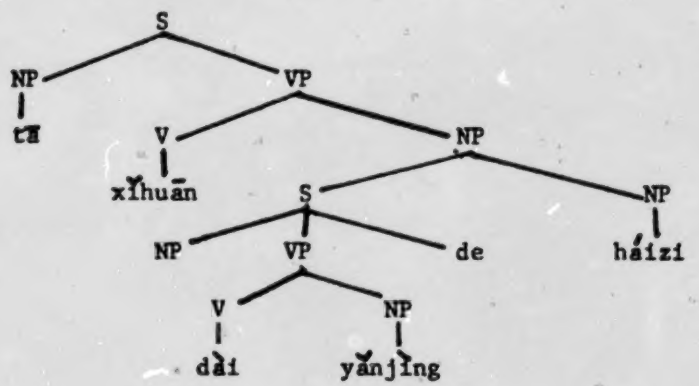
The CNPC holds (as does (30)), for shū cannot be chopped out of (56a) to give (56b).

(56) a. wǒ rènshi yige xǐhuān kàn shū de rèn
I know a like read book rel. man
I know a man who likes to read books.

b. *shū, wǒ rènshi yige xǐhuān kàn de rèn
Books, I know a man who likes to read.

Relative clause formation in Mandarin is accomplished by merely deleting the nominal in the embedded (left-branching) clause.

(57) tā xǐhuān dài yǎnjìng de háizi
he like wear glasses rel. child
He likes the child who is wearing glasses.



Nonetheless, a Mandarin speaker cannot relativize a nominal that already belongs to a relative clause. Thus (58a) cannot be embedded in (58b) to give (58c).

58

(58) a. wǒ de lǎoshī xǐhuān rèn mài de bù
I poss. teacher like man sell rel. cloth

My teacher likes the cloth that the man sells.

b. zhèi bǎ jiǎndāo shǔyu rèn
this particle scissors belong to man

This scissors belongs to the man.

c. *zhèi bǎ jiǎndāo shǔyu wǒ de lǎoshī
this particle scissors belong to I poss. teacher

xǐhuān mài de bù de rèn
like sell rel. cloth rel. man

*This scissors belongs to the man who my teacher likes the cloth that he sells.

In Mandarin, constituent question formation involves no reordering of elements, just as in Thai.

(59) háizi xǐhuān kàn shémma
child like read what

What does the child like to read?

Still, elements of relative clauses may not be questioned.

(60) *tā xǐhuān dài shémma de háizi
he like wear what rel. child

*What does he like the child who is wearing? (cf. (57))

All the arguments and considerations I took up in section 2.1 during my discussion of Thai apply equally well here. Object preposing is clearly a foregrounding operation in Mandarin, just as in Thai. It is merely fortuitous that the CNPC constrains it. The situation vis-a-vis relativization and constituent question formation reveals that (30) is the principle at work in Mandarin, just as in Thai, English and Kannada.

In section 3.6 I noted that echo questions were an exception to (30), and I attempted to explain away the potential counterexamples by noting that pregenerated structures in general are exempt from certain constaints. In Mandarin there is no difference, morpheme for morpheme, between ordinary constituent questions and echo questions. However the intonation of the echo question is conspicuously unlike that of ordinary questions and, to quote my informant, an utterance like (60) with "echo" intonation is "alright only if you didn't hear me correctly."

Not unexpectedly, to the extent that it is grammatical in Mandarin to leave a pronoun in the place of the relativized nominal in the embedded clause, it is grammatical to do so even if the element being relativized is itself in a relative clause. That is, the exception statement (48) holds in Mandarin. Thus parallel to (58c) we have (61).

(61) zhèi bǎ jiǎndāo shǔyu wǒ de lǎoshī xǐhuān
this particle scissors belong to I poss. teacher like

tā mǎi de bù de rén
he sell rel. cloth rel. man

*This scissors belongs to the man who my teacher likes the cloth that he sells.

Finally, I have been able to discover only one counterexample to (30) in Mandarin. It turns out that a constituent in a sentence that has undergone object preposing may nonetheless be questioned, so (62) is grammatical.

(62) shū, ni xiǎng shéi xǐhuān kàn
book you think who like read

*Books, who do you think likes to read?

6.1 In Korean the rule of relative clause formation behaves precisely as its counterpart in Thai, except the deletion goes from right to left because relative clauses in Korean, like those in Kannada and Mandarin, are left-branching. There do not appear to be any chopping rules whatsoever in Korean, so the CNPC and the CSC would be vacuous. Alternatively, one might attribute the absence of chopping rules to the existence in Korean of something stronger than the CNPC, for instance the "embedded sentence constraint" (Rodman 1972a:150), which states that no element may be moved over a complementizer. Or perhaps all rules in Korean are upward bounded (Ross 1967:section 5.1). Whatever the case may be, one thing is certain: (30) is needed in Korean, for while the rule of relative clause formation can delete nominals an indefinitely large distance away from the head of the relative structure, it surely cannot affect elements in relative clauses or coordinate structures whatever the circumstances.

The sentences in (63) suggest that relative clause formation is unbounded.[18]

(63) a. ki sonyon-nin John-ka wiyu-lil masi - ass - ta -
the boy John milk drink PAST ASSERTION

ko mit - nin - ta
COMP believe PRESENT ASSERTION

The boy believes that John drank the milk.

b. ikɔs-nɨn kɨ sonyɔn-ka John-ka *** masi-ass-ta-ko
this the boy John drank

mit - nɨn wɨyu - i - ta
believe rel.(pres.) milk be

This is the milk which the boy believes that John drank.

The rule of relative clause formation deletes wɨyu from the position occupied by the asterisks.

It is impossible to embed (64a) into (64b) and get a relative clause (64c).

(64) a. wɨyu-lɨl masi - ɨn sonyɔn-nɨn khɨta
milk drink rel.(past) boy tall

The boy who drank the milk is tall.

b. ikɔs-nɨn wɨyu - i - ta
this milk be

This is the milk.

c. *ikɔs-nɨn masi-nɨn sonyɔn-nɨn khɨ-(ta) wɨyu - i - ta
this drank boy tall milk be

*This is the milk that the boy who drank is tall.

Furthermore, it is impossible to embed (65a) in (65b) to get a relative clause (65c).

(65) a. kɨ sonyɔn-nɨn wɨyu - wa khɔphi-lɨl masi-ass-ta
the boy milk and coffee drank

The boy drank the milk and the coffee

b. ikɔs-nɨn wɨyu - i - ta
this milk be

This is the milk.

c. *ikɔs-nɨn kɨ sonyɔn-nɨn wa khɔphi-lɨl masi-ɨn
this the boy and coffee drank

wɨyu - i - ta
milk be

*This is the milk that the boy drank and coffee.

Korean constituent question formation parallels Thai and Mandarin. A question-word replaces the constituent to be questioned. There is no change in word order.

(66) a. ki-nin mwos-lil mok - ass - nya
he what eat PAST QUESTION

What did he eat?

b. no-nin na-ka nuku-lil po-ass-ta-ko mit-nin-nya
you I whom saw believe

Whom do you believe I saw? (cf. (63a))

Principle (30) predicts that it is not possible to question a constituent that belongs to a coordinate structure. In Korean you cannot question a constituent that belongs to one sentence of two or more conjoined sentences, nor can you question a non-rightmost NP of two or more conjoined NP's, but you can question the rightmost NP, counter to the prediction of (30).

(67) a. *no-nin mwos-wa kwaca-lil cohaha-nin-nya
you what-and cookies like

*What do you like and cookies?

b. no-nin sakwa - wa mwos-lil cohaha-nin-nya
you apples and what like

What do you like apples and?

The sentences in (67) are not echo questions. Echo questions in Korean drop the question-marker nya, and have a markedly different intonation.

Korean persists in providing counterexamples to (30) when the possibility of questioning constituents inside relative clauses is considered. The question in (68b) is a well-formed Korean utterance.

(68) a. na-nin Bill-ka macna-in sonyon-lil cohaha-nin-ta
I Bill met boy like

I like the boy that Bill met.

b. no-nin nu-ka macna-in sonyon-lil cohaha-nin-nya
you who met boy like

*Whom do you like the boy who met?

7.0. Up to this point I have noted counterexamples to my hypothesis in Mandarin and Korean, although the evidence in those two languages, as well as in Thai, English and Kannada is overwhelmingly in support of it.

In the two sections that follow (7.1 and 7.2) I shall give evidence that appears to legislate against (30) as a universal principle of language, unless some alternative explanations are provided.

7.1. In Japanese, while some weighty support for (30) can be found, the evidence against (30) is also formidable. The processes of Topicalization and Thematization, which foreground elements by making them leftmost in a sentence, appear to violate constraint (30). Relative Clause Formation also violates the constraint, but it's not clear that such violation is independent of the violation associated with Thematization.

7.1.1. The rule Topicalization in Japanese is given by Akatsuka (1969: 16) as (69).

(69) $\quad X - NP - Y \longrightarrow$ OPTIONAL
$\qquad\quad 1 \quad 2 \quad 3$
$\qquad 2\#(1 \quad \emptyset \quad 3)$

It relates sentences like (70a) to (70b).

(70) a. Alice-wa (Max-ga hon-o katta) to iu
Alice Max book bought that say

Alice says that Max bought a book.

b. hon-o, Alice-wa (Max-ga katta) to iu

A book, Alice says that Max bought.

Since "the speaker must place an unusually heavy stress on the preposed NP, and a pause between it and the following constituent" (Akatsuka 1969:15), it seems safe to assume that Topicalization is a foregrounding operation and should be constrained by (30), as it is with respect to coordinate structures, but Akatsuka finds sentences like (71) grammatical.

(71) kono booshi-o Max-wa (Mary-ga kabutte ita to iu
this hat Max Mary wearing was that

uwasa) - o shinjite iru
rumor believing is

*This hat, Max believes the rumor that Mary wore.

If, as I claimed for English, an NP like the rumor that Mary wore this hat manifests a division into a foreground (the rumor) and a background (Mary wore this hat), then (71) is a counterexample to (30). On the other hand, a sentence in apposition to a noun may not be perceived semantically in this way by the speaker of Japanese. There is a dialect of English in which (71) is grammatical (see below section 7.2), and even an occasional speaker of the "standard" dialect finds (71) a

perfectly acceptable utterance. To deflect this counterexample to my hypothesis I am forced to make the circular argument that the applicability of (30) with respect to this case hinges on how the N-S constructions are perceived semantically.

7.1.2. Kuno (1970) observes that sentence (72a) is a thematization and is possibly related transformationally to (72b).

(72) a. sono mura wa, oozei no hito ga kita
the village many people come

As for that village, many people come [there].

b. oozei no hito ga sono mura ni kita
many people the village to come

Many people come to the village.

Thematization is clearly a foregrounding operation. Yet it is not subject to (30), for in (73a) an element in a subordinate clause is thematized, and in (73b) an element that belongs to a relative clause is thematized.

(73) a. sono hito wa, sinda node, minna ga kanasinda
the person died because all were-saddened

*Speaking of that person, everyone was saddened because [he] died.

b. sono sinsi wa, kite-iru yoohuku ga yogorete-iru
the gentleman wearing-is suit dirty-'s

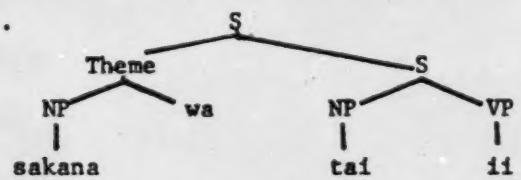
*Speaking of that gentleman, the suit that [he] is wearing is dirty.

Kuno argues that thematized NP's are generated freely in the base. One of his arguments states that thematized sentence (74a), analogous to (72a), has no corresponding analogue like (72b); it must come from an underlying structure like (74b).

(74) a. sakana wa tai ga ii
fish red-snapper is-good

Speaking of fish, red-snapper is good.

b.



There is a deep structure constraint that states that the embedded S cannot have "nothing to do with the theme" (Kuno 1970:XIX 12, note 9). This constraint would block utterances like (75).

(75) *sakana wa Mary ga byooki da
fish Mary sick is

*Speaking of fish, Mary is sick.

Perhaps the fact that the thematized element is generated in the base accounts for the exceptional behavior with respect to (30), but exceptional behavior it is nonetheless, and this counterexample cannot be avoided.

7.1.3. The third exception to (30) to be found in Japanese is embodied in the grammatical sentence (76), where the element sinsi 'gentleman', already a member of a relative clause, is itself relativized.

(76) kite-iru yoohuku ga yogorete-iru sinsi ...
wearing-is suit dirty is gentleman

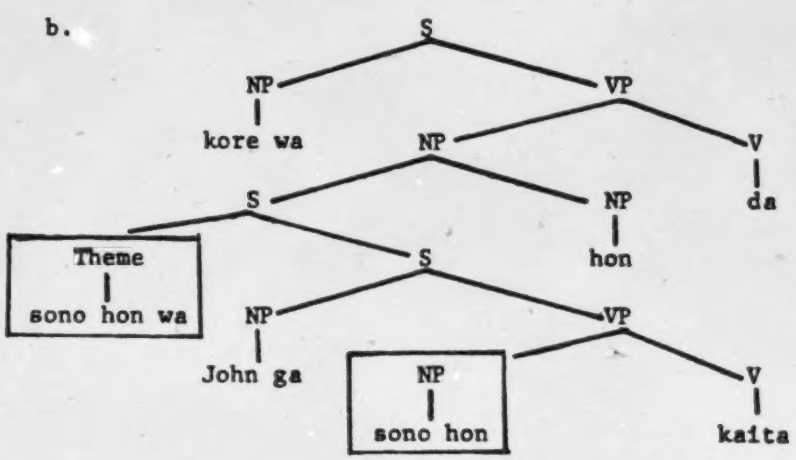
A gentleman who the suit that [he] is wearing is dirty ...

According to Kuno (1970), only elements that can be thematized relative to some sentence can be relativized relative to that sentence. To express this fact in the grammar of Japanese, the rule of Relative Clause Formation deletes an embedded Theme under identity with a head nominal. For example (77a) comes from underlying (77b).

(77) a. kore wa John ga kaita hon da
this John wrote book is

This is the book that John wrote.

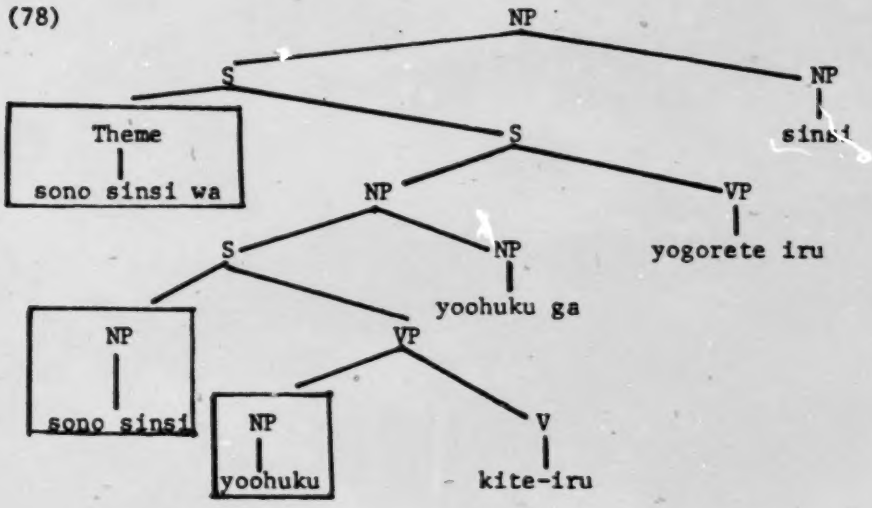
b.



The second sono hon 'the book' in the embedded clause is obligatorily deleted under identity with the theme relative to that clause. Since that theme is identical with the head noun of a relative clause structure, it is deleted by the rule of Relative Clause Formation, giving the surface utterance (77a).

Underlying (76), then, is something like (78), and the basis for this counterexample to (30) is the same one as in section 7.1.2, so I have at least traced two potential counterexamples to (30) to a single source.

(78)



7.2. The Ozark dialect of English, the native speech of a large number of Americans, provides two counterexamples to my hypothesis.[19] The first of these I alluded to in the previous section.

(79) The hat which I believed the claim that Otto was wearing is red.

The second counterexample from Ozark English is reminiscent of the Korean counterexample I discussed toward the end of section 6.1. That is, the rightmost NP of two or more coordinate NP's may be questioned.

(80) a. Who did you see John and?

b. What did you eat peaches and?

The fact that precisely the same exception to (30) occurs in Korean and Ozark is suggestive of some property of language that I have overlooked. I noted in Rodman (1972b) that in English, rightmost elements are the most mobile. Perhaps there is a tendency in natural

languages for elements that are uttered most recently, hence freshest in short term memory, (and rightmost in our mode of representation), to be subject to foregrounding. This tendency and principle (30) come into conflict all the time, with the winner varying from language to language, dialect to dialect, and even from individual to individual.[20]

8.1. This paper has been devoted entirely to a discussion of principle (30). I showed that this principle is indispensable to a grammar of Thai. I cited evidence that this principle is also in effect in English, Kannada, Mandarin and Korean, suggesting that (30) may be a universal principle of language. To dampen this hypothesis, on the other hand, I noted a major class of exceptions that require an exception clause of the nature of (48). Furthermore, some isolated pockets of resistance persist in opposing the universality of (30), even granted (48). A counterexample was noted in Mandarin; two were discovered in Korean, two in Japanese, and two in the Ozark dialect of English, though it is quite clear that not all these counterexamples are independent of one another.[21]

NOTES

[1]I am indebted to Sandra Thompson for helping me obtain data in Mandarin Chinese, and to Georgette Silva for helping me obtain data in Korean.

[2]Thai, English, Kannada, Mandarin Chinese, Korean and Japanese are the six languages. In addition, the Ozark dialect of English is discussed.

[3]I am assuming that it is this rule that is responsible for the preposing of the WH-constituent in relative clauses.

[4]A definition and discussion of foregrounding is found in Schachter (1972:IV).

[5]It is not clear to me whether the question word(s) is freely generated in the base, or inserted by rule. In Thai, any number of NP's may be questioned in a single utterance (e.g. khraj kin ?àraj 'who ate what?'). Since the constraint I will ultimately propose constrains semantic interpretation, this issue is not significantly relevant.

[6]It can also be shown that you cannot apply the rule of Focus to a sentence that has undergone Object Preposing or Focus, nor can you apply the rule of Object Preposing to a sentence that has undergone Focusing.

[7]Paul Schachter argues for this constraint in Schachter (1972).

[8]For example, Emonds (1970:137ff) has a phrase structure rule PP ———> P S for strings like before he erred.

[9]Ross shows that this sentence must involve across-the-board relativization, and cannot result from an application of the rule Conjunction Reduction.

[10]One of the reasons, I think, that Thai speakers do not find violations of (30) too bad when constituent questions are involved is that echo questions are structurally identical to ordinary constituent questions. Sometimes a particle ná is added, and there are intonational differences.

[11]Very heuristically, I believe echo-questions are generated with a reduced amount of semantic structure and that fact, at least in part, accounts for the possiblity of violating certain semantically based constraints like (30). Van Lancker (1972) has claimed that propositional modes of languages use are lateralized to the left cerebral hemisphere, while automatic modes (such as swearing, emotional expletives, etc.) are bilaterally represented in the brain. Though she doesn't mention echo-questions per se, there is no doubt that there is some automaticity in producing echo questions. This suggests that the left cerebral hemisphere, quite likely the source of semantic constraints like (30), is not as involved in the production of echo questions, or other kinds of pregenerated structure, as it is in normal propositional speech, hence providing an explanation of why some constraints are relaxed.

[12]In a language like Kannada (cf. section 4.1), the 'pronominal trace' may contain the entire element.

[13]If you like fantastical analogies, the situation can be viewed as follows: a constituent has been doomed to live its life in a background ghetto, or in one of a number of coordinate ghettos. Suddenly a chance for promotion presents itself. But the deprived constituent cannot simply pack up and leave, for its envious colleagues in the ghetto would raise such a clamor that the whole sentence would be invaded by the National Guard and declared an unlawful (i.e. ungrammatical) utterance. However the gesture of leaving behind a pronominal trace of itself appeases the constituent's colleagues, and it is then free to take advantage of the opportunity for advancement.

[14]According to Ross (1967:238-9).

[15]Nadkarni (1970) is my source of information about this language.

[16]Nadkarni argues convincingly that this mode of relative clause formation does not involve reordering (1970:Ch. 3, p. 59).

[17]Kannada is an SOV language and has the expected left-branching relative clause structure.

[18]I am systematically omitting the translation of a number of grammatical particles that are not directly relevant. All the Korean data are given in approximately their lexical form prior to the operation of the morphophonemic rules.

[19]These data were kindly made available to me by Suzette Elgin, a native speaker of the Ozark dialect.

[20]My Thai informants all find (24c) less unacceptable that (24b), a manifestation, no doubt, of the same tendency.

[21]Russ Schuh was kind enough to comment on an earlier version of this paper. He noted, first, that contrastive stress is a foregrounding operation that violates constraint (30). This is true, for (i) and (ii) are grammatical.

(i) Guinevere bit Bob and Tobia.
(ii) Let's eat the brownies that Mona baked.

However, (i) and (ii) are pregenerated structures (cf. section 3.6); (i) presupposes previous discourse to the effect that Guinevere bit Bob and somebody, just as (ii) presupposes previous discourse to the effect that we should eat brownies that someone baked. This case falls into a well-defined category of counterexamples discussed in section 3.6.

Professor Schuh also informed me that in Ngizim, a Chadic language, constituent question formation does not involve movement, similar to Thai, Korean, etc. It is impossible to question elements of relative clauses in Ngizim, as (30) predicts, but it is possible to question the rightmost element in a series of conjoined NP's:

(iii) kà nci albasaĩ naa tam
you like onions and what

However, Professor Schuh suggests that the meaning of (iii) is "you like onions and what else?" so this may be another instance of pregenerated structure. Otherwise, it is the same type of counterexample discussed in section 7.2 in connection with similar counterexamples that occur in Korean and the Ozark dialect of English.

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